



## Missouri Department of Natural Resources

### **WATER QUALITY COORDINATING COMMITTEE**

DNR Conference Complex  
1738 E. Elm  
Bennett Spring Conference Room  
Jefferson City, Missouri

January 15, 2002  
10:00 a.m.

### **MEETING AGENDA**

Department Reorganization, Scott Totten, DNR, Water Protection & Soil  
Conservation Division

Status of Biological Criteria Development for Water Quality Standards  
Randy Sarver, DNR, ESP

Draft 401 Application Checklist, Don Boos, DNR, WPCP

Water Quality Standards Changes and Revisions, Chris Zell, DNR, WPCP

Status of FY02 319 Proposals;  
Restrictions on Use of FY03 319 Money, Becky Shannon, DNR, WPCP

Other

Meetings & Conferences

Agency Activities

MISSOURI WATER QUALITY COORDINATING COMMITTEE  
MEETING MINUTES

January 15, 2002

DNR Conference Complex  
1738 E. Elm  
Bennett Springs Conference Room  
Jefferson City, Missouri

**Attendees:**

Paul Andre	Dept. of Ag	Bill Kurtz	University Outreach & Extension
Bob Ball	USDA, NRCS	Tom Lange	DNR Office of Director
Joe Bachant	MDC	Hal Lettington	BASF Corp, Hannibal
Miya Barr	USGS-WRD	John Lodderhose	MSD
Steve Bauguess	DNR/WPSCD/WPCP	Tabitha Madzura	University Outreach & Extension
Clif Baumer	USDA, NRCS	Rex Martin	Syngenta
Dorris Bender	City of Independence	Jody Mayes	DNR/WPSCD/KCRO
Verel Benson	UMC/FAPRI	Brooks McNeill	DNR/WPSCD/SWRO
Michael Bollinger	Ameren	Len Meier	Greenway Network
Bruce Boomer	Farmland Industries	Donna Menown	DNR/WPSCD/WPCP
Don Boos	DNR/WPSCD/WPCP	Colleen Meredith	DNR/WPSCD/WPCP
Georganne Bowman	DNR/WPSCD/WPCP	Richard Morgan	MASWCD
Carl Brown	DNR/Env Assistance Office	Don Nikodim	MO Pork Producers Assoc.
Bob Broz	University Outreach & Extension	Caitlyn Peel	HBA of Greater St. Louis
Gary Buford	The Boeing Co.	Anne Peery	DNR/WPSCD/WPCP
Robert Brundage	PSF/MO-Ag	John Pozzo	Ameren
Bill Bryan	AGO	Jim Ptacek	COE, Kansas City District
Loring Bullard	Watershed Committee of the Ozarks	Charles Putnam	National Park Service
Gale Carlson	Dept. of Health & Senior Services	Craig Reichert	DNR/WPSCD/NERO
Sharon Clifford	DNR/WPSCD/WPCP	Tim Rielly	DNR/ALPD/ESP
Patrick Costello	EPA Region VII	Rick Roberts	Maxim Technologies Inc.
Lyle Cowles	EPA Region VII	Randy Sarver	DNR/ALPD/ESP
Irene Crawford	DNR/WPSCD/NERO	Darlene Schaben	DNR/WPSCD/WPCP
Randy Crawford	DNR/ALPD/ESP	Jeannette Schafer	EPA Region VII
Jim Czarnezki	MDC/NRCS Liaison	Candy Schilling	DNR/WPSCD/WPCP
Pete Davis	EPA Region VII	David Shanks	The Boeing Co/St. Louis RCGA
Cindy DiStefano	MDC	Becky Shannon	DNR/WPSCD/WPCP
Dan Downing	University Outreach & Extension	Patrick Shannon	Dept. of Health & Senior Services
Wanda Eubank	UOE North Fork Project	Diana Sheridan	James River Basin Partnership
Rhonda Ferrett	City of Lake St. Louis	Buffy Skinner	MSD
Steve Fischer	MDC	Bob Steiert	EPA Region VII
Larry Furniss	US Forest Service	Priscilla Stotts	DNR/WPSCD/WPCP
James Gasich	Lake St. Louis Community Assoc.	Steve Taylor	MO Corn Growers Assoc.
Ray Grossmann	Lake St. Louis Community Assoc.	Terry Timmons	DNR/WPSCD/PDWP
Liz Grove	Clarence Cannon Wholesale Water Comm	Scott Totten	DNR/WPSCD/WPCP
Chris Hamilton	USDA, NRCS	Tom Wallace	Midwest Env Consultants
Tyler Harris	MO Coalition for the Environment	Gary Webber	City of Unionville
Michael Heaton	DNR/WPSCD/NERO	Bob Williamson	KCMO Water Services
Cindy Hebenstreit	MO American Water Company	Gail Wilson	DNR/WPSCD/WPCP
Ted Heisel	MO Coalition for the Environment	Tracy Winter	DNR/WPSCD/KRCO
Roy Hengerson	Sierra Club	Emitt Witt	USGS-WRD
Bob Hentges	MO Public Utility Alliance	Don Yoest	Dept. of Ag
Evan Kifer	DNR/GSRAD	Bill Zeaman	DNR/ALPD/LRP
John Knudsen	DNR/WPSCD/WPCP	Chris Zell	DNR/WPSCD/WPCP
Angel Kruzen	Water Sentinel/Sierra Club	Leanna Zweig	MDC

**Department Reorganization, Scott Totten, DNR, Water Protection & Soil Conservation Division**

Scott informed the group that John Madras has transferred within the department to the new Air & Land Protection Division and is now the Environmental Policy Director. Becky Shannon has accepted the responsibility of Acting Chief of the Planning Section of the Water Pollution Control Program (WPCP). Scott explained that he is still the Interim Director of the WPCP and that the director position should be filled soon.

Scott went on to say that Steve Mahfood has been director of DNR for 3 years. Following an EPA model and to provide additional assistance to the public, the Division of Environmental Quality has been split into two divisions. There is now an Air & Land Protection Division that includes the programs of Hazardous Waste, Air Pollution Control, Solid Waste Management, Land Reclamation and Environmental Services. John Young is the Director; Dan Schuette is the Deputy Director. The regulatory programs include Water Pollution Control, Public Drinking Water, Soil & Water Conservation and the 6 regional offices and are called the Water Protection and Soil Conservation Division.

The Technical Assistance Program was renamed to the Environmental Assistance Office and is now with the Outreach & Assistance Center along with Historic Preservation Program, the Energy Center and Public Information. Division of Geology & Land Survey is now called the Geological Survey and Resource Assessment Division.

A main goal of the department is to keep the commissions and programs intact.

**Status of Biological Criteria Development for Water Quality Standards, Randy Sarver, DNR, ESP**

Randy gave a PowerPoint presentation of biological criteria development for Wadeable/Perennial streams. A definition of biological criteria can be either a narrative description and/or numerical values that describe the reference biological integrity of aquatic communities inhabiting aquatic life use. In 1994, some narrative criteria were established in the Water Quality Standards (WQS). DNR is trying to establish numeric criteria for the WQS. It isn't a simple task to boil down biologic communities into numbers. Streams are part of ecological systems. Ecological integrity is a combination of chemical integrity, physical integrity and biological integrity. Not a lot of effort has been focused on biological resources in Missouri. Ohio is the first state to adopt biological criteria. Some of the intent of the Clean Water Law is to protect human health and biological communities. Randy mentioned several documents available from EPA and DNR, as well as other documents.

Some of the objectives from 1992 to present are: an ecologically based framework for biological criteria, use of the reference stream approach and establishment of Wadeable/Perennial reference streams in each ecoregion; sampling macroinvertebrate communities from each reference stream; analyses of data; and establishment of numeric criteria. The Ecological Drainage Unit (EDU) is used as part of the framework. If numeric criteria are developed for MO, using this basic framework, numbers would be needed for each unit in the state. Reference streams from each EDU are the benchmark. The criteria for selecting reference streams are: perennial; Wadeable; 6-step selection process; and field verified. Sixty-two streams are being used. Streams were filtered out based upon human impact, reservoirs, lakes or mining, so there are none around metropolitan areas. Pictures were shown of a good example of a reference stream. For macroinvertebrate sampling, a project procedure has been developed; sampling is done two times per year; multi-habitat sampling is used; physical habitat is assessed to judge comparability; and multiple metrics are used. The two sampling regimes used are riffle/pool or glide/pool. Habitats sampled in riffle/pool streams include: flowing water over coarse substrate; non-flowing water over depositional substrate; and rootmat. Habitats sampled in glide/pool streams include: non-flowing water over depositional substrate; large woody debris; and rootmat.

Each sampling regime has ten parameters that are scored while doing stream habitat assessments. A modified version of EPA's Rapid Bioassessment Habitat parameters for high and low gradient streams is available from DNR as "Stream Habitat Assessment Project Procedures." This habitat assessment procedure is not designed to be used for trends but is used to judge habitat comparability of biological sampling locations.

Metrics is defined as an enumeration that changes in some predictable way with increased human influence. Eleven potential metrics were analyzed for variability, sensitivity and redundancy. Randy explained how the numbers were derived for warm-water vs. cold-water streams. A Missouri Stream Condition Index scoring procedure was developed in which there are 20 possible points. Fully biologically supporting streams would have an index score of 16-20; partially biologically supporting streams would have a score of 10-14; non-biologically supporting streams would have a score of 4-8. Randy showed a graph with impairments (biocriteria reference, channelization, metals, non-point source, point source, reference streams) and how they scored using data from Fall 1994 to Spring 2001.

Where DNR is going from here is still under discussion. Biological assessments of streams already listed on the 1998 303(d) list have been implemented to gather data concerning current status and to provide the ability to measure the expected recovery after best management practices are put in place. As of yet, streams have not been listed for biological reasons. Randy mentioned that this is not a random design; they are mostly working with targeted sites right now. This work has been consistent with guidance provided and comments provided by various people including EPA.

#### **Draft 401 Application Checklist, Don Boos, DNR, WPCP**

Handout: Draft Application Checklist for Completeness – 401 Certifications

Don explained that people who propose to do work in a stream or fill in a wetland or some project that involves waters of the state, have to apply to the Corps of Engineers (COE) for a 404 permit. Another part of the process is to get certification from the state of Missouri. An application completion checklist was requested to be developed to ensure that everyone knew what constituted a complete application. Most of the information on the checklist came from the COE application. Don asked that people review the checklist and let him know at (573) 751-1404 or fax (573) 526-5797 if you have any comments.

#### **Water Quality Standards Changes and Revisions, Chris Zell, DNR, WPCP**

Handouts: Water Quality Standards Triennial Review-Phase I; Whole Body Contact Recreation Criteria; Use Attainability Analysis Worksheet; Metals Criteria for Protection of Aquatic Life; Dissolved Oxygen Criteria; Ammonia Criteria

Chris summarized proposed rules for the Water Quality Standards. It is about the same material as was discussed last June. A water quality standard is composed of 3 parts—a criteria, a designated or beneficial use, and part of an antidegradation policy. Every 3 years EPA reviews the Water Quality Standards. In theory Missouri's Water Quality Standards have not been reviewed since the early 1990's. In September 2000, EPA sent a letter to DNR that summarized and itemized parts of the Water Quality Standards that did not comply with the intent of the Clean Water Act of 1972. DNR responded to EPA with a plan for review that included 3 phases. Six stakeholder meetings were held last year.

The first recommended change is modification or addition of whole-body-contact recreation use to all classified waters in Missouri. Approximately ¼ of the waters are classified as whole body contact. EPA proposes to have all waters fishable and swimmable. Any facility discharging coliform bacteria will have to disinfect within 2 miles of a classified stream. However, if a Use Attainability Analysis (UAA) is completed by the facility and approved by EPA, then disinfection can be waived (sample worksheet handed out).

Another change is high flow exemption. Our Water Quality Standards have a high flow exemption for fecal coliform bacteria both for ambient and effluent limitations. EPA recommends that unless we can define the flow at which people no longer swim in a given stream, and no longer has whole body contact recreation use, then we must remove that high flow exemption. Bacteria standards are applicable over all flow ranges. To avoid potential promulgation, we are recommending removal of the high flow exemption. Therefore, bacteria standards would have to be met regardless of flow condition. To alleviate some of the potential 303(d)

implications so that exceedence of bacteria standards doesn't automatically mean there would be an impaired waterbody, the geometric mean of 200 colonies/100 ml with a minimum of 5 samples in the recreation season (April 1-October 31) will be used.

Another major change is metal criteria. Currently, Water Quality Standards did not account for using *Ceriodaphnia* in calculation of protection of aquatic life for metals. We are going to recommend using an equation so it allows a more precise estimate to what the criteria is. This will be more stringent. Metals include cadmium, chromium, copper, nickel, silver, zinc and hexavalent chromium.

The next change is how we measure compliance with our drinking water standards. In the past, existing criteria, with the exception of mercury, was measured as dissolved. Now EPA recommends we use the total recoverable method to measure compliance. This is a conservative method. The potential impact is that there will be paper violations that will exceed the total recoverable criterion. However, because a lot of the drinking water treatment plants remove that recoverable portion, we will have paper violations that have no impact to observed water quality that people are taking in.

Another change is dissolved oxygen. Existing criteria is 5 mg/l regardless of fishery type except for cold water, which is 6 mg/l. The existing criteria are not appropriate in some waterbody types. We will incorporate the 1986 EPA guidance into the Water Quality Standards as far as dissolved oxygen is concerned. It recognizes waterbody types and allows a more appropriate dissolved oxygen standard per waterbody type. DNR is recommending:

- cold water fisheries--weekly average of 7.0 mg/l (80% saturation, 68°F, 750' elevation);  
daily minimum of 6.0 mg/l (existing standard);
- cool water fisheries--weekly average of 6.0 mg/l (80% saturation, 84°F, 750' elevation);  
daily minimum of 5.0 mg/l (existing standard);
- warm water fisheries—general – weekly average of 5.5 mg/l (80% saturation, 90°F, 750' elevation);  
daily average of 4.0 mg/l (EPA Guidance);  
--limited – weekly average of 5.0 mg/l (EPA Guidance);  
daily average of 3.0 mg/l (EPA Guidance)

The next issue is permitting in outstanding national resource waters. Those waters include: Current, Eleven Point and Jacks Fork drainages. This means that water quality cannot be degraded in these drainages. EPA disapproved the existing standard that allowed an increase of pollutant loading for POTWs and mine dewatering discharges. To be in compliance with the Antidegradation Tier III definition of those waters, DNR is recommending no net change in pollutant loading occur. The mass loading cannot change on these waters.

The 1999 ammonia criteria that EPA has developed will be added. The 1984 document is currently being used. The new standards will be in ammonia nitrogen. In the 1984 document, acute criteria are both pH and temperature dependent. The new standard will be pH dependent only. Chronic criteria will remain pH and temperature dependent. There will be two tables, one for limited warm water fisheries and one for cold, cool and warm water general fisheries.

Other miscellaneous changes will be on Tables A, B, C, E, G, H and I. Typos, errors, increases of length of mileage, etc. will be the types of changes on these tables.

Let Chris know if you have any comments or questions. It is expected to have these rules effective in December 2002.

In Phase 2 or 3, biological indicators for whole body contact will be looked at for alternative bacterial indicators as opposed to fecal coliform to come into compliance with national criteria.

Randy Crawford explained the difference between dissolved and total recoverable on the metals criteria.

The Use Attainability Analysis (UAA) template was developed using one from Colorado and Wyoming that EPA has approved for that region. There are several EPA documents available that explain more about the UAA.

Comments will be accepted at any time now. The public notice will be published in the Missouri Register and a public hearing will be held.

There were discussions on all classified waters being designated as whole-body-contact use and the UAA.

**Status of FY02 319 Proposals; Restrictions on Use of FY03 319 Money,** Becky Shannon, DNR, WPCP  
Eighteen proposals were received this year. They were presented to the Clean Water Commission and recommendations will be forwarded to EPA as part of the grant package.

Part of next year's funding for nonpoint source work will have the restriction of only being used on waters that have TMDLs and implementation plans in place.

### **Other/Meetings & Conferences**

Sharon Clifford informed the group that the TMDL Policy Advisory Committee meeting will begin an hour after the morning meeting adjourns. Everyone is welcome to attend. Topics include the 2002 303(d) list and a showing of the TMDL video.

Bob Steiert mentioned that the next round of water quality cooperative agreement request for proposals should be out within a month or so. It is a small grant program available for studies and improvements. When it becomes available, Bob will send the information to Darlene, who will forward it to the group. Bob also mentioned that EPA HQ, Office of Water, is talking about considering a "trading policy," similar to what Air is doing.

Bob Broz mentioned several conferences. Contact Bob if you need more information.

Feb. 5-6	Mo-Ag Classic meeting, Hearn Center, Columbia
Feb. 21	Southwest Missouri Irrigation Conference
Feb. 27	Healthy Homes Workshop, North Fork Project, CCWWC
Feb. 28	Grant Writing, North Fork Project, CCWWC
March 19	On-Site Sewage, North Fork Project, CCWWC
April 16-18	Water Quality Short Course, sponsored by DNR/NRCS/Univ. Extension, contact Bob Ball, Becky Shannon or Bob Broz for more info.

Bob Ball mentioned that on Jan. 30-Feb. 1 there will be the MO Natural Resources Conference at Tan-Tar-A. Bob informed the group that there will not be a USDA CRP signup this year for fiscal reasons.

Sharon let the group know that the TMDL video is available free of charge if anyone is interested.

Meeting adjourned.